

REMARKS

Claim 1 defines a device for cleaning and spraying a gas nozzle including a cleaning device (18) which is movable in the direction of a first axis (20) toward and away from a clamping-holding device (16) and a spraying device (22) which is movable in the direction of a second axis relative to the clamping-holding device (16). Claim 1 as amended recites that the first axis and the second axis are disposed substantially transversely to one another. Dependent Claim 6 recites that the first axis and the second axis form an angle between 60° and approximately 150° . New Claim 18 recites the angle as approximately 90° .

To overcome the Examiner's objection under 35 U.S.C. §112, Claim 6 has been amended to clarify the angle limitation. Claim 14 is now dependent on Claim 9 to provide the antecedent basis for the cutting device. Claim 15 is replaced by an independent Claim 19 including the limitations previously recited in Claims 1, 9 and 15.

In paragraph 4 of the Official Action, Claims 1-8 and 17 were rejected under 35 U.S.C. §103(a) as obvious over EP90233A in view of Thielmann 4,702,195 and EP694360B1. The Examiner noted that the claims differ from EP90233A in calling for the cleaning device to be movable toward and away from the nozzle holding device and in calling for the spraying device to be movable.

In the device of EP90233A a gas nozzle is inserted into a first socket 4 for cleaning and a second socket 5 for spraying. The first socket 4 has a revolving cleaning head 6 (Fig. 2) and the second socket 5 has a spraying head 7 (Fig. 5). Neither the cleaning head 6 nor the spraying head 7 is movable longitudinally along its axis. Further, there is no suggestion of arranging the cleaning head 6 and the spraying head 7 to be movable along axes which are disposed transversely to one another.

In the cleaning device of Thielmann 4,702,195, a gas nozzle 22 to be cleaned is inserted into an opening 21 and secured by a piston 24 against stops 31 and 32. The device includes a motor 4 which drives a blade head 3 with blades 25 to scrape the nozzle

22. The motor 4 and blade head 3 are adjustable in height by a pneumatic cylinder 9. The device also includes stationary spray nozzles 2 for applying an antiadhesive liquid to the nozzle 22. There is no suggestion in Thielmann that the blade head 3 and the spray nozzles 2 can be arranged to be movable along axes which are disposed transversely to one another.

EP694360B1 relates only to an apparatus for spraying an antistick agent onto a gas nozzle. Because no cleaning device appears in the apparatus, EP694360B1 does not provide any basis to teach a person skilled in the art to achieve a cleaning and spraying apparatus wherein the cleaning device and the spraying device are arranged for movement along first and second axes which are disposed transversely to one another.

Further, in the spraying apparatus of EP694360B1 the spray nozzle 5 is mounted for pivotal movement when engaged by the gas nozzle 3. The spray nozzle 5 is located at the end of a crank lever 24 which is pivotally mounted on a pivot axis 25. The purpose of the crank lever 24 is to activate a spraying procedure when the gas nozzle 3 is pressed against the spray nozzle 5 in the direction of the arrow 26 (Fig. 1). Clearly, the spray nozzle 5 is limited to a pivotal movement determined by the location of the pivot axis 25. Thus, EP694360B1 does not disclose or suggest that the spray nozzle 5 can be arranged for movement along an axis which is transverse to the axis of the gas nozzle 3.

In the present invention, the gas nozzle is firmly fixed in place by a clamping device and the cleaning device is capable of a longitudinal movement and the spraying device is capable of a transverse movement relative to the axis of the gas nozzle. In EP90233A and EP694360B1 the gas nozzle must be placed in front of the spraying device requiring a skillful operator to handle the gas nozzle to perform a cleaning action. The spraying head 7 of EP90233A is immobile. The spray nozzle 5 of EP694360B1 is only capable of a slight pivotal movement. In Thielmann 4,702,195 the spraying nozzles 2 are not capable of any movement relative to

the gas nozzle. Accordingly, none of the references discloses or suggests the device of the present invention wherein the cleaning device and the spraying device are movable relative to the clamping device along axes transverse to one another.

The present invention allows a complete mechanical cleaning and a subsequent spraying with a non-stick medium while the gas nozzle remains in a single maintenance position. The cleaning and spraying are advantageously performed without the necessity of manually guiding the gas nozzle to different cleaning and spraying stations. Further, the movement of the spraying device in a direction transverse to the direction of movement of the cleaning device allows the non-stick medium to be applied more accurately to the gas nozzle.

In the Official Action, the Examiner characterized the angular orientations of the dependent claims as routine matters and obvious design choices. Claim 6 recites that the first and second axes form an angle of between 60° and approximately 150°, and Claim 18 recites the angle as approximately 90°. Claim 8 recites that the axis of the movable spray nozzle forms an angle of less than 60° with the first axis. Claim 17 recites that the axis of the movable spray nozzle forms an angle of 45° to 25° or less with the first axis. The claimed angular orientations are not disclosed or suggested by the cited references. Accordingly, applicant believes that the Examiner's rejection is not supported by the references of record.

In paragraph 5 of the Official Action, Claims 9-14 and 16 were rejected under 35 U.S.C. §103(a) as obvious over EP90233A in view of Thielmann 4,702,195 and EP694360B1 as applied to Claims 1-8 and 17, and further in view of Thielmann 4,834,280. In the Examiner's view, it would have been obvious to provide the device for cleaning a nozzle of EP90233A with a cutting device in view of Thielmann 4,834,280 as shown in Fig. 1, elements 49 and 51.

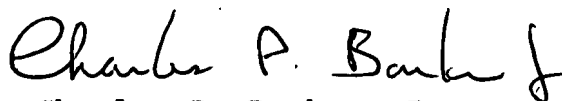
Thielmann 4,834,280 discloses a cleaning device similar to 4,702,195 which includes a movable blade head 3 and stationary spraying nozzles 5. However, Thielmann 4,834,280 has the same

deficiency as 4,702,195 because it contains no suggestion that the blade head 3 and the spray nozzles 5 can be arranged to be movable along axes which are disposed transversely to one another. Accordingly, Thielmann 4,834,280 provides no basis for teaching a person skilled in the art to achieve the device of the present invention wherein the cleaning device and the spraying device are movable relative to the clamping device along axes transverse to one another.

In paragraph 6 of the Official Action, the Examiner advised that Claim 15 would be allowable if presented in independent form and amended to overcome the §112 rejection. Applicant submits a new independent Claim 19 including the limitations of original Claims 1, 9 and 15. Claim 19 also includes the limitation that the first axis and the second axis are disposed substantially transversely to one another. New dependent Claims 20 and 21 define the angular orientations of the first and second axes. Since Claim 19 incorporates the Examiner's suggestion, applicant believes that Claims 19-21 define patentable subject matter.

For the above reasons, applicant believes that the claims are patentable and request allowance of all claims in this case.

Respectfully submitted,



Charles P. Boukus, Jr.
Registration No. 24,754
Attorney for Applicant
Suite 202
2001 Jefferson Davis Highway
Arlington, Virginia 22202
(703) 415-2620

May 23, 2007